

Design Bearings

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The use of the term “design” is prevalent in education talk (e.g., see the theme issue of *Educational Researcher*, vol. 32, no. 1 [2003]). Some of this talk tends to cast design as representations manifested through applied method as ways to solve and address educational practices and issues (e.g., Constantine & Lockwood, 1999; Dick & Carey, 1990; Edelson, 2002; Kelly & Lesh, 2000). Within this focus on representation an impulse for generality and commensurability seems to dictate; either the data must be seen to correspond to some external reality, or the subjects must agree (e.g., Brown, 1992; Brown & Campione, 1996; Cobb, Confrey, diSessa, Lehrer, & Schauble, 2003; Collins, 1992; Hoadley, 2002). Design can become an act that reifies and totalizes what is present, and the future, that which is absent, different, possible, and yet-to-be-achieved, disappears. Such disregard for the future concerns me and tells me the role of design in education is neglecting its artistic roots and traditions, potentially undermining the strengths that design offers education. Certainly, arts-based educational researchers (e.g., Barone, 1995, 2001a, 2001b; Barone & Eisner, 1997; Eisner, 1991, 1997, 1999) have fore-grounded these strengths, valuing the creation of an alternative reality, seeing ambiguity as productive, utilizing expressive, contextualized, and vernacular language, suggesting and promoting empathy and insights moving “toward uncovering obscured questions” (Barone, 2001a, p. 25). But, such thinking seems to be absent from much of the body of work recently co-opting the term design and in my opinion risks losing sight of the integral nature of design vital within the act of designing. Specifically, the loss of temporality and interplay through reliance on concepts brought to bear, rather than bearings found within the act of designing, will be examined. To do so, I draw primarily on the thinking of Dewey (1934, 1938) and Bakhtin (1990, 1993) as both ground their thinking in the actuality of the creating act. The Aristotelian notion of *repetition* as permeating the act of designing, evoking an exploratory, restless movement, is taken up as a means to see and experience the strengths of designing. Repetition is not simply a methodological, theoretical, or philosophical notion, but a moral one. I suggest that the act of designing demands what Caputo (1987) calls an “ethics of dissemination.” The act of designing entails a moral obligation

to the future of our work, to generativity, to the possibility that what is “wholly other” (Caputo, 2000) might remain so, and resist being calcified into a representative design.

The Act of Designing

The act of designing assumes that one must enter as a designer into such acts. Attending to the act of designing within the act of designing and not the design itself, becomes the focus. Contrarily, design can be taken up as a representative form, assuming functionary, imposed roles. The danger of calcifying design arises. Rather, the artistic roots and traditions of design take up design as a process emerging out of the act. Design is always being yielded. It is the capacity to see this yielding movement that is the strength of design and is underestimated. Returning to the etymological origin of design from the Latin *designare* meaning to *mark out*, I search for the bearings upon which yielding design depends, the conditions of designing grounded in the designer’s capacity to concomitantly see and act within the adapting, building, creating process of designing. It is this search for bearings that I desire to gain greater access into, in order to recognize, foster, and nurture the terms of design in others.

I turn to Bakhtin’s (1990, 1993) early aesthetic essays and Dewey’s (1934, 1938) later works to pursue the conditions of design. Though each writes from their own perspective and context, both Bakhtin and Dewey ground thinking in the creating process itself. Bearings/lived terms emerge for me from each thinker that cultivates “the thinking in situations” (Albers, 1969, p. 35) which enables seeing. In this way, both Bakhtin and Dewey help me to insist that design must be understood in terms of human action. Thus, the act of designing is taken up throughout the paper as the act of knowing; the designing process of understanding in relation to action itself. Bakhtin and Dewey provide a language that articulates the terms of design and allows me to envision these terms within my educational practices. Indeed, this is Dewey’s (1904) claim, that this movement must be known before it can be directed (p. 21).

Searching with Bakhtin

Bakhtin (1993) emphasizes the uniqueness and singularity of creating for each person. From within the *act* or *deed*, *participatory thinking* orients individuals. This focus on the act as it is happening makes it necessary to see the act not as a given contemplated at a distance, but to see from within, a taking into account of the givenness, moment by moment. “And all these moments, which make up the event in its totality, are present to him (sic) as something given and as something to be achieved conjointly” (p. 30). The simultaneous awareness of both something given and something yet-to-be-achieved is crucial to the intent of Bakhtin’s attempt to describe the world in which the act/actor becomes aware of it-self/him/herself; a catching of self in the act. He is clear that it is not aimed at

describing the world produced by that act. It is through Bakhtin's thinking that I realize that the concrete is not simply a step toward something else, but rather, concomitantly a knowing of the present and how to meaningfully proceed. He grounds the creating act in the unique human being, located spatially and temporally in the phenomenology of self/other relations. Bakhtin portrays such entering into self/other relations as occurring through events to be lived out, enacted, or achieved:

In which the moments of what-is-given, and what-is-to-be-achieved, of what is and what ought to be, of being and value, are inseparable. All these abstract categories are here constituent moments of a certain living, concrete, and palpable (intuitable) once-occurrent whole—an event. (p. 32)

Thus the creator finds him/herself in a space between what-is-given and what-is-to-be-achieved. Bakhtin (1990) further describes such a space as the problem of *content*, *material*, and *form*; content being what work is about, material being the concrete and abstract matter out of which work is constructed, and form being the relationships in work between self, content, and materials (pp. 257–325). But, the problem of content, material, and form does not require a problem solver so much as the capacity Bakhtin (1993) terms *aesthetic seeing*. Aesthetic seeing is characterized as a releasing or opening of one self to the present; an immersion in immediacy. It offers accounts of experienced space, time, body, and human relations as they are lived. There is an ebb and flow; a rhythmic quality to time that is not determined by external timetables. It requires listening, responding, and openness in what is heard and what is said. Such engagement thrives on unforeseen possibilities. Such a space places self clearly in the midst, as catalyst and sounding board. Bakhtin (1993) explains: “What constitutes this center is the human being: everything in this world acquires significance, meaning, and value only in correlation with man (sic)—as that which is human” (p. 61). In other words, the act of creating is oriented through actual experiencing, demanding interconnections between self and other. Bakhtin (1993) further clarifies:

Content, after all, does not fall into my head like a meteor from another world, continuing to exist there as a self-enclosed and impervious fragment, as something that is not woven into the unitary fabric of my emotional-volitional, my living and effective, thinking-experiencing, in the capacity of an essential moment in that thinking-experiencing. (p. 33)

Content comes to be understood within the act of participation in events themselves, thus characterized as unique, lived, embodied, and contextual, wholly dependent on self-involvement. Aesthetic seeing searches for the potential in materials to provide direction, both shaping and limiting inquiry. The connections fostered are a catalyst to insights, giving the inquiry meaning and life. Thus, Bakhtin (1990) describes form and material as: “The form of content, but a form

which is realized in the material—is attached to the material, as it were” (p. 303). So, form is understood as the expression of activity. And, form very much includes “its creator within itself” (pp. 315–316). Bakhtin’s description of the internally active human being as creator entering form through seeing, hearing, evaluating, connecting, and selecting—takes life. “Form ceases to be outside us as perceived and cognitively ordered material; it becomes an expression of a value-related activity that penetrates content and transforms it” (p. 305). Thus, the process is inseparable from the product. Bakhtin (1993) claims this requires participants: “Know how not to detach their performed act from its product, but, rather how to relate both of them to the unity and unique context of life and seek to determine them in that context as an indivisible unity” (p. 19).

Bakhtin (1990) suggests a language that expresses the flux, the movement necessary to grapple in-between self, content, material, and form, fusing process and product into an interdependent, ongoing unity. Within this indivisible unity Bakhtin introduces the language of *answerability*, *outsideness*, and *unfinalizability* for describing involvement in the creating act. He portrays answerability arising out of a fundamental reciprocity between self and content, continually relating to personal understandings and values. Bakhtin explains how this is not derived from a mechanical relationship of parts to whole. “The parts of such a whole are contiguous and touch each other, but in themselves they remain alien to each other” (p. 1). Rather, answerability is dependent on personal involvement. Such involvement necessitates taking “an axiological stand in every moment of one’s life or to position oneself with respect to values” (pp. 87–88). Bakhtin further explains that he sees this living and moving “not in a vacuum, but in an intense axiological atmosphere of responsible, answerable, indetermination” (p. 275). Bakhtin’s claim is that answerability is not a given, but rather, is seen as a task to engage in and with, through participation in the creating process. An emotional commitment and involvement expressing what is particular and irreplaceable in each situated individual comes forth. Through participation individuals question. By deliberating and doing they become answerers; response entails responsibility. The subject matter starts to matter to individuals and one’s distinctiveness from others can become a catalyst to enlarged understandings and diverse thinking. Bakhtin (1986) explains how outsideness makes this possible. Outsideness speaks to his interpretation of the self as a fully embodied self, a self that is constituted interdependently with the other. Outsideness is experienced through an interdependence realized at boundaries where understandings come up against or meet another. Each needs the other. A self-consciousness takes hold that is not ground in a solitary consciousness, but rather a developing greater consciousness of other, others, and in turn, self. Thus, neither self nor other are bound entities; they intermingle in a body-world relationship yielding an outsideness, belonging as much to the other as self. These new meanings are tentative, representing moments of clarity but also blurred with unfinished or incomplete thoughts. Participants make judgments derived largely on what sur-

faces during process. This is the nature of Bakhtin's (1990) notion of unfinalizability (pp. 121–132). The interaction of self and other is ongoing and ultimately unfinalizable. There is openness to unasked for and unpredictable learnings. Change and transformation are always possible.

Searching with Dewey

The primacy of interaction portrayed by Bakhtin (1993) is integral to Dewey's (1934, 1938) central philosophical notion of *experience*. Dewey also finds that the creative act offers a language and a way of seeing that addresses the experience from within experience. Dewey (1934) speaks of art as a creative act offering: "Living and concrete proof that man (sic) is capable of restoring consciously and thus on the place of meaning, the union of sense, need, impulse, and action characteristic of the live creature" (p. 25). Thus, art exemplifies a living experience, a consummation of a movement where a "conclusion is no separate and independent thing" (p. 38). There is a wholeness that must not be simplified. The wholeness is derived from Dewey's emphasis on an *organic* sense of experience inherent in the constitution of what it means to be human-embodied within each of us. Experience is the life that comprises the organic whole—the human being. There is a vital connection within experience to the past, present, and future. Dewey (1938) portrays people living both in (*interaction*) and through an environment (*continuity*) (p. 24). "Different situations succeed one another, but because of the principle of continuity something is carried over from the earlier to the later one" (p. 44). The conceptions of situation and interaction are inseparable. "An experience is always what it is because of a transaction taking place between an individual and what, at the time, constitutes his (sic) environment" (p. 41). The two principles of continuity and interaction *intercept* and *unite* (p. 42). Dewey (1934) emphasizes that experience comes to be "what it is because of the entire pattern to which it contributes and which it is absorbed" (p. 295). Thus experience involves participants actively structuring what is encountered through active *undergoing* with an open, vulnerable, receptive attitude and *doing* typified as responding, organizing, and discerning. Dewey (1934) explains that the interplay between undergoing and doing is always evolving with beginnings and endings occurring throughout, thus: "An experience has pattern and structure, because it is not just doing and undergoing in alteration, but consists of them in relationship" (p. 295). Such interplay seems very similar to the relationship Bakhtin conveys living in-between content, material, and form; a relationship that both Dewey and Bakhtin identify as requiring seeing. Bakhtin's notion of *aesthetic seeing* parallels Dewey's distinction between recognition and seeing. Recognition is about labeling and categorizing, but seeing entails receptivity, assuming a commitment to finding out about the ensuing interactions. Dewey's talk of *purpose* characterized as an attitude rather than a specific goal or aim clarifies the intents of this distinction: "The essential point is that the purpose grow and take shape through the process of social intelligence" (p. 83).

Connectedness is discussed as the organizational thread thus Dewey claims: “We have no choice but to operate in accord with the pattern it (experience) provides or else to neglect the place of intelligence in the development and control of a living and moving experience” (p. 88). Dewey assumes an active participant adapting, building, and changing meaning in an ongoing conversation between self and other very much embracing Bakhtin’s notions of answerability, outsideness, and unfinalizability. The implied unity and movement are critical to understanding Dewey’s (1938) notion of experience as a *moving force*. He clarifies:

In such experiences, every successive part flows freely, without seam and without unfilled blanks, into what ensues. At the same time there is not sacrifice of the self-identity of the parts . . . In an experience, flow is from something to something. As one part leads into another and as one part carries on what went before, each gains distinctiveness in itself. The enduring whole is diversified by successive phases that are emphases of its varied colors. (p. 45)

Inherent Conditions and Consequences of Design

Bakhtin (1993) and Dewey (1934, 1938) convey like conditions found within the actuality of the creating act that are worth paying closer attention to regarding the nature of design. Both Bakhtin and Dewey argue that it is impossible to separate parts away from the entirety of the act of creating meaning. It is experienced as connected, all parts linked in relation to the vital movement of the whole, belonging to the self and situation concerned in this movement. In this way both portray the act of creating meaning positioning participators to be wholly involved. Bakhtin conveys a space created that positions participants in-between content, material, and form pervaded by his (1990) notions of answerability, outsideness, and unfinalizability. And as Dewey conveys, momentary semblances of meaning come to be. But such semblances are dynamic; parts are always evolving and unfolding into further semblances of meaning. Meaning is something always to be achieved, striving for unrealized potential. And, it is a learning space only for “those who wish and know how to think participatively” (Bakhtin, 1993, p. 19) experienced as a “kind of mental activity which characterizes mental growth and, hence, the educative process” (Dewey, 1904, p. 22).

Finding accordance with the vital movement of the whole entails finding direction within the movement, a knowing in action *intimately* and *necessarily* related within the movement itself (Dewey, 1938, p. 20). Failure to take the *moving force* of experience into account betrays experience. Such betrayals manifest themselves through focusing on ends, ignoring the elements of knowing within experience. Dewey (1938) met this betrayal of experience in the misinterpretations of his thinking often stripping experience of its dynamic unfolding and undergoing character. Thus, he wrote of the *need of a theory of experience* (p. 25). Bakhtin sought such a theory too, keenly aware that the rational and sensuous

aspects of our being are in a constant state of reciprocity. It seems both Bakhtin and Dewey value temporality and interplay as givens to be worked with and simultaneously working as dynamic practices, permeating the act of creating meaning. Synthesizing my searches with Bakhtin and Dewey, I find temporality and interplay to hold the following interdependent consequences for the nature of design, its organization, form and ensuing relationships, giving expression to the bearings/lived terms of designing:

Design—a discourse by nature

Embodying the very unique, personal, humanness of meaning making, knowledge resides in self-experience. The act of knowing entails a “reorganizing or reconstruction of experience” (Dewey, 1934, p. 76), past informing present, with implications for the future. This temporal reorganizing/reconstructing process is likened to a dialogue between self and other. The discourse entered into becomes the design. The Latin root of discourse is *discursus*, a running about. The implied sense of movement and the unique experience of this running are integral considerations. Thus, a pattern of thought acknowledging the interplay of context, time, and personal experience grows, becoming the necessary link to sense making, suggesting a design organization and form.

Organization—inquiry guided

The temporal discourse Bakhtin (1993) and Dewey (1934, 1938) give expression to is not simply interactive, it entails dwelling within context. The relational interplay must be attended to from within the search for meaning. I am reminded of Maxine Greene’s (1988) “*dialectic of freedom*,” in which “one’s reality rather than being fixed and predefined is a perpetual emergent, becoming increasingly multiplex, as more perspectives are taken, more texts are opened, more friendships are made” (p. 23). This emergent nature characterizes the organization in the making, derived from the inquiry itself. Most importantly, transformation occurs with all changing in the process. This is Gadamer’s (1992) understanding of play as distinct from self and other. Play is its own experience, reuniting means and ends, reliant on the performance (p. 134). It is the performance, the Bakhtinian *act* and the Deweyan *experience* that has a spirit of its own which participants must attend to and take up. The reciprocal interaction and modification entailed, transforms meanings in the making.

Form—a narrative way of knowing

The act of creating meaning is socially motivated, socially embedded, and derived from the personal narratives of experience. Narrative is a form where the interplay of time, place, experience, and personal knowledge can be represented fully. The relations, connections, and interactions are parts of the whole. Unity is something both Bakhtin (1993) and Dewey (1934, 1938) see revealed in the form of the action as a whole. Narrative demands such a search for unity, evolving and

reforming as knowledge is constructed and generated. Therefore, to talk of the act/experience of creating meaning takes a narrative form, acknowledging the multiplicity of knowing and the dialectical relationships involved.

Inherently and necessarily relational

Implicit within design, and its organization, and form are multiple intersecting relations holding the potential to generate the ongoing designing movement of thought. Bakhtin (1993) and Dewey (1934, 1938) do not characterize this movement in any way as arbitrary, and yet uncertainty is integral to the process. The differences between arbitrariness and embracing uncertainties are important and need to be examined more fully. Neither Bakhtin nor Dewey suggests a predetermined plan. Arbitrariness denies the existence of relationships with no acknowledgement of what particularities bring to situations. It is aimless, at the mercy of fortuitous events. It does not look back or ahead, with no end in sight. Thus it assumes a carefree, careless abandonment to the moment. Arbitrariness is characterized as thoughtless and reckless. Embracing uncertainties is distinguished from arbitrariness through its deliberate nature. This deliberate nature does not entail a predetermined and fixed purpose, though. Rather, decisions are derived from within situations demanding receptivity to sensory qualities and relations between self and other on an ongoing basis. In other words, the invention and creation of meaning is sought. A spirit of inquiry emerges of its own volition. This centers on discovery, with this neither being an object or a concept, but a deliberate, ongoing search concomitantly seeking and giving self to the creation. Such seeking and giving of self embraces means and ends. Dewey (1934) talks of the artist assuming the attitude of the perceiver while involved in the making process. Only as ends and means are taken together, made part of one's response, can this form a continuum. Embracing uncertainties is necessarily present acting as a catalyst. Space for speculation, projection, the unanticipated, guides and provides direction. Embracing uncertainties as strength is the catalyst sustaining the movement integral to both Dewey's and Bakhtin's thinking. And as Dewey (1916) claims, "This is a doctrine of humility; but it is also a doctrine of direction. For it tells us to open the eyes and ears of the mind, to be sensitive to all the varied phases of life and history" (pp. 11–12). So, arbitrariness is not present. Embracing uncertainties through discernment is a better fit as both Dewey and Bakhtin convey a relational designing movement as a discourse by nature. The designing movement is inquiry guided, narrative in form, and inherently relational, concomitantly seeing, thinking, doing, and acting responsibly.

Dynamics of Design: Seeing and Repetition

Designing through discernment requires sensitivity to a medium as a medium (Dewey, 1934, p. 199). It asks us to attend to "that which appears qualitatively and focally at a particular moment" (Dewey, 1926, p. 7), taking an interest in

that which appears. Interestedness is about being in the middle of things—the space found between self and other derived from within the act of participation. And, such participation is always extending and enlarging derived from the bearings disclosed within the movement. Bakhtin (1990) characterizes such participation through his interrelated notions of *answerability*, *outsideness* and *unfinalizability*. Dewey (1934) characterizes such participation through his interrelated notions of *doing* and *undergoing*. Undergirding both characterizations is the notion of *repetition*. Repetition is a notion that Risser (1997, p. 34) traces back to Aristotle (1925). Repetition is discussed as a turn and re-turn to self understanding, acting on possibilities. Acknowledging and working with temporality and interplay demands repetition. Risser explains that in “this temporal movement of the self toward its future possibilities, one recommit oneself to the possibilities that are recognized as one’s own” where “past possibilities of action become future possibilities and are repeated in the moment of decision” (p. 38). Thus, Risser concludes that repetition is “fundamentally dynamic” (p. 39). In so doing, he clearly distinguishes dynamic repetition (creative and life giving) from static repetition (repeating the same). It is dynamic repetition that I see as the central task of designing. Creating meaning entails coming to understand differently, and thus concomitantly, creating and re-creating self. This repetitive movement is a continuous process of coming to see; a backward movement that recovers and re-presents alongside a forward movement that generates and evokes. Perhaps, the role and place of repetitive seeing as the source of the movement is what has been repeatedly misinterpreted and misunderstood, betraying design as a moving force. Carr (2000) alludes to this identifying technicist and non-technicist seeing as the crux of “much confusion in educational debate” (p. 76). Seeing taken up in a technicist manner ignores the particularities of context and follows procedures to a pre-given end. Thus, technicist seeing reduces action to predefined behavior, substituting finite goals for transformational thinking, and replacing judgment with predetermined rules and skills. Rather, non-technicist seeing considers what is at stake in a situation. This is not a generalizable imposed wisdom but rather specific to a moment, unanticipated. And, most importantly, furthers the movement of thought in self and others. But, the repetitive seeing entailed in entering as a creator into designing most importantly positions the creator to see with potential involving a curious interplay between self and other, between creating and being created. Potential refers to Gadamer’s (1992) insistence that

Although it is necessary to see what a situation is asking of us, this seeing does not mean that we perceive in the situation what is visible as such, but that we learn to see it as the situation of action and hence in the light of what is right. (p. 322)

I use “curious” to acknowledge the embodied particularities of such exchanges

that cannot reoccur. The interplay discloses ways of seeing living within the movement. It is the dynamic and transformational understanding of repetitive seeing that is missing, more apt to be undermined, the movement is thwarted. This is why Dewey (1938) adamantly distinguishes between educative and mis-educative experience (p. 75). And, Bakhtin (1993) cannot imagine living in a world where content is imposed: “In that world I am unnecessary, I am essentially and fundamentally non-existent in it” (p. 9).

The link between repetitive seeing and its potential for the future is the moral grounding that takes repetition beyond simply a methodological, theoretical, or philosophical consideration. What gets produced is other; beyond what might be given, or specified in advance by theory, or guaranteed by method. It assumes a concern with what it is that ought to be done; a mode or way of being in the world entailing pursuit of the good. And, such a search for the good is always in immediate relationship to the whole arising from the particulars of situation and returning to situation. It is not about gazing out upon an external world applying meaning but rather meaning in the making deemed fitting to situations on an on going basis. Caputo (1987) is helpful here arguing that the story of much methodology, theory, and philosophy has been to “still the flux, to contain its course, to arrest its play” (p. 257). Instead he proposes an “ethics of dissemination” awakening us to the play, fostering a “fresh cut into the complexity of the situations we face” (p. 261). Caputo explains that an ethics of dissemination “requires the hardness of repetition” . . . to instill motion that is “flexible, in flux, reformable, responding forward” (p. 263). There is both a vigilant suspicion and a concern for attending to the play itself that can be operationalized only through a community engaged in an ongoing discourse. Openness to possibility is key. There is a moral obligation to the future, to generativity, to the possible that what is “wholly other” (Caputo, 2000) might remain so.

Conclusion

Discovery and invention yield design, bringing forth a tangible form. There is little room for exploring designing as being-in-the-world where rigid rules dictate the way in which design should be represented. Limitations unduly impinge upon or restrict the possibilities for designing. Design as being-in-the-world comes from playing with possibilities, searching for relationships. The development of such thinking in situation allows for the discovery of potential. It permits possibilities to be included as the search evolves. Without a playful spirit it would seem that imaginative thought, requiring speculation and conjecturing about possibilities, might not be possible. So as educators find themselves caught up in the immediacy of given situations, they are confronted with either contriving encounters to fit a fixed idea or acting on an openness to new ideas and an acceptance of alternatives through listening and responding to the particularities of contexts. Belief in the worthiness of the latter approach to design translates into

greater commitment to search for these considerations in their designing practices. The act of creating meaning makes visible the bearings of its own visibility. The bearings lie in constantly questioning what we see and think about the world as it opens up.

The process becomes a search for intentionality that articulates a different mode of design rooted within its artistic traditions; one that is reflexive, an interchange of interpretations asking all involved to continually revise and enlarge understandings. This manifesting character assumes a mode of design understood as coming into being, reliant on the relational complexities coming together in particular teaching/learning situations and the ongoing contemplation of these relations. It restores the participatory, active nature to design taking life as a movement of thought. Bakhtin (1990, 1993) and Dewey (1934, 1938) denote design bearings that must be heeded, providing images and vocabulary to see anew. The act of designing shapes and guides from within meaning making, taking its bearings from the particularities coming together, concomitantly aware of circumstances and the potential of those circumstances. Such a repetitive movement seeks out and seizes back possibilities in life. Designing accordingly entails seeing the concrete situation as it is, and as it might be.

References

- Albers, J. (1969). *Search versus re-search*. Hartford: Trinity College Press.
- Aristotle. (1925). *The Nicomachean ethics*. Oxford: Oxford University Press.
- Bakhtin, M.M. (1986). *Speech genres and other late essays*. Austin: University of Texas Press.
- Bakhtin, M. M. (1990). *Art and answerability*. Austin: University of Texas Press.
- Bakhtin, M. M. (1993). *Toward a philosophy of the act*. Austin: University of Texas Press.
- Barone, T. (1995). The purposes of arts-based educational research. *International Journal of Educational Research*, 23(2), 169–180.
- Barone, T. (2001a). Science, art and the predispositions of educational researchers. *Educational Researcher*, 30(7), 24–28.
- Barone, T. (2001b). *Touching eternity: The enduring outcomes of teaching*. New York: Teachers College Press.
- Barone, T., & Eisner, E. (1997). Arts-based educational research. In R. M. Jaeger (Ed.), *Complementary methods for research in education* (2nd ed., pp. 75–116). Washington, DC: American Educational Research Association.
- Brown, A.L. (1992). Design experiments: Theoretical & methodological challenges in creating complex interventions in classroom settings. *Journal of the Learning Science*, 2, 141–178.
- Brown, A. L., & Campione, J. C. (1996). Psychological theory and the design of innovative learning environments: On procedures, principles, and systems.

- In R. Glaser (Ed.), *Innovations in learning: New environments for education* (pp. 289–325). Mahwah, NJ: Erlbaum.
- Carr, W. (2000). *Professionalism and ethics in teaching*. London: Routledge.
- Caputo, J. (1987). *Radical hermeneutics: Repetition, deconstruction & the hermeneutic project*. Bloomington, IN: Indiana University Press.
- Caputo, J. (2000). *More radical hermeneutics: On not knowing who we are*. Bloomington, IN: Indiana University Press.
- Cobb, P., Confrey, J., diSessa, A., Lehrer, R., & Schauble, L. (2003). Design experiments in educational research. *Educational Researcher*, 32(1), 5–8.
- Collins, A. (1992). Toward a design science of education. In E. Scanlon & T. O'Shea (Eds.), *New directions in educational technology*. New York: Springer-Verlag.
- Constantine, L. L., & Lockwood, L. A. (1999). *Software for use: A practical guide to the models and methods of usage-centered design*. Boston: Addison Wesley Professional.
- Dewey, J. (1904). The relation of theory and practice in education. In C. A. McMurtry (Ed.), *The relation of theory to practice in the education of teachers: The third yearbook of the National Society for the Scientific Study of Education* (p. 22). Chicago: University of Chicago Press.
- Dewey, J. (1916). *Democracy and education*. New York: Capricorn.
- Dewey, J. (1926). *Experience and nature*. Chicago: Open Court.
- Dewey, J. (1934). *Art as experience*. New York: Capricorn.
- Dewey, J. (1938). *Experience and education*. New York: Collier.
- Dick, W., & Carey, L. (1990). *The systematic design of instruction*. Glenview IL: Scott, Foresman & Little.
- Edelson, D. C. (2002). Design research: What we learn when we engage in design. *Journal of the Living Sciences*, 11(1), 105–121.
- Eisner, E. W. (1991). *The enlightened eye: Qualitative inquiry and the enhancement of educational practice*. New York: Macmillan.
- Eisner, E. W. (1997). The promise and perils of alternative forms of data representation. *Educational Researcher*, 26(6), 4–10.
- Eisner, E. W. (1999). Rejoinder: A response to Tom Knapp. *Educational Researcher*, 28(1), 19–29.
- Gadamer, H.-G. (1992). *Truth and method*. New York: Continuum.
- Greene, M. (1988). *The dialectic of freedom*. New York: Teachers College Press.
- Hoadley, C. (2002). Creating context: Design based research in creating and understanding CSCL. In G. Stahl (Ed.), *Computer support for collaborative learning* (pp. 453–462). Mahwah, NJ: Erlbaum.
- Kelly, A. E. (Ed.). (2003). Theme issue: The role of design in educational research. *Educational Researcher*, 32, 1.
- Kelly, A. E., & Lesh, R. A. (Eds.). (2000). *Handbook of research design in mathematics and science education*. Mahwah, NJ: Erlbaum.

Risser, J. (1997). *Hermeneutics and the voice of the other: Re-reading Gadamer's philosophical hermeneutics*. Albany: State University of New York Press.

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